Date: Thu, 23 Sep 93 04:30:20 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V93 #53
To: Ham-Homebrew

Ham-Homebrew Digest Thu, 23 Sep 93 Volume 93 : Issue 53

Today's Topics:

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

Date: 22 Sep 93 02:02:04 GMT
From: concert!news-feed-1.peachnet.edu!news-feed-2.peachnet.edu!hobbes.cc.uga.edu!
aisun3.ai.uga.edu!mcovingt@RUTGERS.EDU
Subject: Anyone interested in discussing PLL synthesis?
To: ham-homebrew@ucsd.edu

In article <27o5mt$388@usenet.INS.CWRU.Edu> dxk10@po.CWRU.Edu (David Kazdan Md)
writes:
>
>I understand how PLLs stay locked. But how do they _get_ locked? Phase
>error doesn't mean much when the VCO and the incoming signal are of
>different frequencies.

Simple. If they are at different freqs. then the phase error is constantly
varying -- the phase detector output is AC rather than DC, so to speak.
It will swing through a level at which the two signals are in phase.
When it does, *click!*

--
:- Michael A. Covington, Associate Research Scientist   :   *****
:- Artificial Intelligence Programs   mcovingt@ai.uga.edu : *********
:- The University of Georgia   phone 706 542-0358 :   * * *
:- Athens, Georgia 30602-7415 U.S.A.   amateur radio N4TMI : ** *** ** <><

Date: Wed, 22 Sep 1993 15:11:52 GMT
From: elroy.jpl.nasa.gov!sdd.hp.com!hpscit.sc.hp.com!news.dtc.hp.com!srgenprp!
glenne@ames.arpa
Subject: Anyone interested in discussing PLL synthesis?
To: ham-homebrew@ucsd.edu

Michael Covington (mcovingt@aisun3.ai.uga.edu) wrote:
: In article <27o5mt$388@usenet.INS.CWRU.Edu> dxk10@po.CWRU.Edu (David Kazdan Md)
writes:
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: varying -- the phase detector output is AC rather than DC, so to speak.
: It will swing through a level at which the two signals are in phase.
: When it does, *click!*

Not so simple if the signal is originally further away than the loop
bandwidth. In that situation it won't just "click" in.
  Many PLL phase detectors are also phase/frequency detectors and provide
a corrective DC component for the unlocked situation.

Glenn Elmore n6gn

N6GN @ K3MC
amateur IP: glenn@SantaRosa.ampr.org
Internet: glenne@sr.hp.com

Date: 22 Sep 93 18:02:07 GMT
From: news.cerf.net!pagesat!olivea!spool.mu.edu!howland.reston.ans.net!
europa.eng.gtefsd.com!darwin.sura.net!dtix.dt.navy.mil!oasys!
kstuart@network.ucsd.edu
Subject: Crystals...FT 243's...no longer made?
To: ham-homebrew@ucsd.edu

Just as a point of information, JAN Crystals in Fort Myers, Fla. had
FT-243 crystals as a line item in their 1992 catalog. Price was
$8.00 plus $0.50 shipping ($10.00 minimum order).

For current info, their number is 1-800-JAN-XTAL.

Ken Stuart, W3VVN

Date: 22 Sep 93 19:00:30 GMT
From: ogicse!uwm.edu!vixen.cso.uiuc.edu!sdd.hp.com!col.hp.com!srgenprp!
alanb@network.ucsd.edu
Subject: Forwarding: VHF UHF transistor types
To: ham-homebrew@ucsd.edu

David_Shalita.ES_AE@xerox.COM (David_Shalita.ES_AE@xerox.COM) wrote:

: I am homebrewing some wireless circuits that need
: 10 to 100 mw rf output stages, lower level
: oscillators and rf amplifiers that operate
: from 200 to 1200 mhz.
:
: I am looking for part types and sources for low cost
: counterparts at these VHF UHF frequencies of the
: 2N2222 transistor.

The good ol' 2N5179 is a good standby VHF/UHF bipolar transistor.
For higher power the 2N5109 in a TO-5 case has similar specs. They
both have an Ft of around 1 GHz as I recall.

A good low-noise JFET is the J310 (plastic package) or U310 (metal can).
Makes an excellent grounded-gate amp with a decent match to 50 ohms on
the source input.

The MSA-series VHF/UHF amplifiers from Avantek and HP are very easy
to use since they have 50-ohm inputs and outputs. Versions are available
with various noise figures and power levels. The MSA-0686 is spec'd
at 16.5 dB gain, 2 dB noise figure, 2 dBm output and 800 MHz bandwidth.
The MSA-0486 has 7 dB gain, 7 dB NF, +12.5 dBm output and 3.2 GHz
bandwidth.

AL N1AL

Date: 22 Sep 1993 16:15:30 -0500

From: library.ucla.edu!europa.eng.gtefsd.com!howland.reston.ans.net!
vixen.cso.uiuc.edu!moe.ksu.ksu.edu!matt.ksu.ksu.edu!news@network.ucsd.edu
Subject: high speed datalink
To: ham-homebrew@ucsd.edu

Does anyone have plans, or know where to get plans for a
high speed 1.2 - 2.4G 1Mb/s (or faster) datalink? Preferably
ethernet interface, but I'll take any other interface.
Thanks
--
Eric Patterson -- electro@wiz.eece.ksu.edu -- N0SJW

Date: 23 Sep 93 00:16:14 GMT
From: news-mail-gateway@ucsd.edu
Subject: Like to see these kits
To: ham-homebrew@ucsd.edu

A good chip for FM reception is the Signetics TDA 7000. I have built
a few receivers using this chip. It works well as long as you don't
want to go much above the FM broadcast band. Performance at 30 MHz
IF frequencies was superb.

BTW, where can you get small orders of the MC3362?   Also does anyone
know where you can get the TDA7000 these days?

73, Erich   KA6AMD @ WA6YBN.#SOCA.CA.USA.NA
Internet: muschinske%39a.decnet@scfb.chinalake.navy.mil

Date: Wed, 22 Sep 93 22:48:44 GMT
From: btree!hale@network.ucsd.edu
Subject: What kits would you like to see?
To: ham-homebrew@ucsd.edu

In article <27lksv$99@usenet.INS.CWRU.Edu> aa570@cleveland.Freenet.Edu (Jim Cole)
writes:
>Sorry, to shoot you down Randy, but there is no clear and definite way
>to detect commericals. Each network and cable company has varying
>technical people and delivery of the signal is almost allways different.

Sure there is. Pattern recognition.

You can build a device which will extract the relevant parameters
from the video and/or audio and will compare those computed parameters

to stored parameters. When they match within some allowed fuzz band
then your output goes true and when they cease to match then the
output goes false. The output can mute the audio, blank the video,
pause the VCR, or do whatever you wish (generate a letter to the
advertiser?).

You have to teach the system which inputs are to be recognized.
Therefore each new commercial will get through until your train
the system. That's probably a reasonable thing to do.

Why don't people do this now? Cost. Such a system would be well
into the multiples of $10K with present day technology. However,
at the rate that technology advances, these systems will be affordable,
at least to the luxury buyer, in 10 years.

Bob Hale   ...!ucsd!btree!hale
...!hale@brooktree.com (preferred)

Date: 22 Sep 1993 11:30:08 GMT
From: dog.ee.lbl.gov!agate!doc.ic.ac.uk!uknet!mcsun!sunic!news.funet.fi!uta.fi!
vuokko!stkaba@network.ucsd.edu
To: ham-homebrew@ucsd.edu

References <27cilr$mkc@newscast.West.Sun.COM>, <27mlp6$934@vuokko.uta.fi>,
<1993Sep21.164140.6445@ica.philips.nl>ab
Subject : Re: Wide-band PLL's (was: discussing PLL synthesis)

Geert Jan de Groot (geertj@ica.philips.nl) wrote:
: stkaba@uta.fi (Kari Back) writes:

: >Dana Myers (myers@cypress.West.Sun.COM) wrote:

: >: I've built some PLL synthesizers and learned quite a bit in doing so.

: > I would like to join, just now I am planning a 100 to 200MHz VCO
: >with binary band switching, and have done small computer program
: >determining required inductor and capacitor values.

: Be careful. First off, I don't think you are able to do that in one
: oscillator, but if you do, you will still have other problems.
: In this case, 1mV of noise will generate 10 kHz of FM deviation.
: Now, it's hard to make a VCO input signal noisefree; it is very
: easy to have a noise level of about this range.
: Not to think about the hum if it's on the bench!

Ok, thank for the comments,

... the VCO was really intended to be one oscillator for this range, but
it is divided in four frequency bands with binary controlled diode swithing
that set the required inductors and fixed capacitors for each band.
The tuning slope Mhz/V is (should be) therefore lower, 2.2MHz/V for each
25MHz span.
Will see after next few weeks...
...

Have anyone experienced with strip-line inductors on PCB-board, what the
Q could be on glass-epoxy boards ?.
And size of 80 nH inductor ?.

Kari

End of Ham-Homebrew Digest V93 #53
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